

### **Abstract of the Disclosure**

A soft-switched, full-bridge pulse-width-modulated (FB PWM) converter and its variations provide zero-voltage-switching (ZVS) conditions for the turn-on of the bridge switches over a wide range of input voltage and output load. The FB PWM converters of this invention achieve ZVS with a substantially reduced duty cycle loss and circulating current, which optimizes the conversion efficiency. The ZVS of the primary switches is achieved by employing an auxiliary circuit comprising an inductor and transformer to store energy for ZVS turn-on of the bridge switches.